

Masthead Logo

Forward

Student Magazines

Summer 2017

Forward: Summer 2017

Iowa State University Foundation

Follow this and additional works at: <https://lib.dr.iastate.edu/forward>

Recommended Citation

Iowa State University Foundation, "Forward: Summer 2017" (2017). *Forward*. 3.
<https://lib.dr.iastate.edu/forward/3>

This Book is brought to you for free and open access by the Student Magazines at Iowa State University Digital Repository. It has been accepted for inclusion in Forward by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

forward

IOWA STATE UNIVERSITY FOUNDATION

SUMMER 2017 | VOL. 6 NO. 2

*John V. Atanasoff,
inventor of the
electronic digital
computer*

➡ The next *big
breakthrough*

the NEXT BIG BREAKTHROUGH

By Thomas R. O'Donnell

SCIENTISTS CAN BE WARY OF THE WORD “breakthrough,” cautious of overselling a discovery – especially one of their own. Even John Atanasoff was simply searching for a faster way to perform sophisticated calculations when he pioneered the first digital computer at Iowa State. Only further experimentation over time, building on a body of knowledge, can distinguish a development as a leap forward for humankind.

That doesn't mean scientists aren't willing to peer into that unknowable future. Considering where their research could lead provides a target that puts a long-term, long-sought solution a bit closer in reach, if not for them, then for those coming after who build on such research.

Forward spoke with several Iowa State University innovators, researchers and scientists whose work probes the edges of their fields: Seeking to cure Parkinson's disease and other brain-destroying conditions. Building self-assembling molecular machines to diagnose and treat illness. Making detecting cancer or toxins as easy and inexpensive as a disposable test strip. Harnessing data that leads to more productive crops. Custom fabricating shelters at refugee sites. And making the decisions that keep us safer on our roads and highways.

Any of these up-and-coming developments may or may not be breakthroughs. But all stand to impact our lives and our world in ways we have yet to imagine.

Cover:
Dr. John V. Atanasoff
by Simmie Knox (American, 1935-), 1995.



LIE TANG
associate professor
of agricultural and
biosystems
engineering

CAROLYN LAWRENCE-DILL
associate professor
of genetics,
development and cell
biology, and of
agronomy

Have robot, will index:

Lie Tang builds robots and programming to automate farm equipment and gather plant data. Carolyn Lawrence-Dill devises ways computers can index that and other information on how genes and the environment interact to influence plant appearance, growth rate and other factors. The research could contribute to new, more productive crops.

Expertise intersection:

With Iowa State plant scientists, Tang is developing camera- and sensor-equipped robots that will move through growth chambers in the Enviratron, now under construction, taking detailed plant images and gathering other data. Lawrence-Dill's computational tools will make Enviratron information accessible and searchable. Robotic monitoring without moving plants will generate more reliable data.

The gene and the machine:

Lawrence-Dill foresees a change from research approaches that progress from DNA code to genes to plant characteristics, to one progressing from characteristics to codes. Scientists are devising standard descriptions of plant traits, making them amenable to computer manipulation. More powerful processors will drive that transition. “We can pack more computational power into a small package and sensors become more capable,” Tang says, offering new opportunities for intelligent robots.

C+C X 3-D: Shelby Doyle co-founded the Computation + Construction Lab at Iowa State, providing students access to digital design and fabrication technology. The lab boasts computers, 3-D printers, large-scale computer-controlled routers and hand tools students use to digitally draft and build projects like interactive light sculptures and permanent structures in Iowa communities.

The end game: The lab gives students experience in the latest construction technology. “We have the opportunity to experiment and try things that would be much more difficult to do professionally as an architect,” Doyle says. The program also emphasizes outreach to Iowa industry and sustainable design that minimizes waste.

More than making things: Doyle is also researching “how to teach technology at a time when it’s changing really quickly. We’re trying to hit a moving target for our students.”

The future of fab: Buildings could someday be digitally fabricated and assembled on site, Doyle says, although it’s too costly now to do so as anything more than experiments. Yet it may not be long before aid agencies, for example, could quickly manufacture refugee housing on-site as the need arises.



Photo: Paul Gates | Illustration: John Bosley

SHELBY DOYLE AIA, assistant professor of architecture, Daniel J. Huberty Faculty Fellow



KEVIN SCHEIBE associate professor, information systems, Kingland Business Analytics Faculty Fellow

SREE NILAKANTA associate professor, information systems, Kingland Graduate Director of Business Analytics

Photo: Christopher Gannon | Illustration: John Bosley

Speed the plow: Sree Nilakanta and Kevin Scheibe analyzed nine years – millions of items – of Iowa Department of Transportation snowplow maintenance data. Their simulation-based decision-support system projects when maintaining a plow costs more than buying a new one. Their conclusion: It’s cheapest to replace plows in seven to eight years rather than the DOT’s usual 15 years. The result: \$2 million to \$5 million annual savings.

Street fleet sweet spots: Several states are interested in the approach, which could apply to other vehicles or machines. Operators want to know “how to predict maintenance routines, what will fail and what causes it to fail,” Nilakanta says. Data-driven decision-making, Scheibe adds, will drive efficiency: “If we could create dashboards allowing the DOT, in real time, to evaluate equipment performance... we could create more responsive services.”

Smart ways to cut corners: Transportation data is amassing quickly, as transportation departments monitor pavement conditions and prepare for vehicles that communicate with each other. Data scientists will apply new machine-learning and deep-learning algorithms that recognize patterns in this information and draw conclusions from it to help humans make decisions, Nilakanta says.

Inveterate tinkerer: Eric Henderson was a Los Angeles “street waif” who did best in shop class and fiddled with cars. Now he creates molecule-sized “nanomachines,” structures so small 6.7 trillion individual machines could fit in the ball atop a pin. The nanomachines have properties similar to macro-scale mechanisms with moving parts. “I just like building gadgets,” especially useful ones.

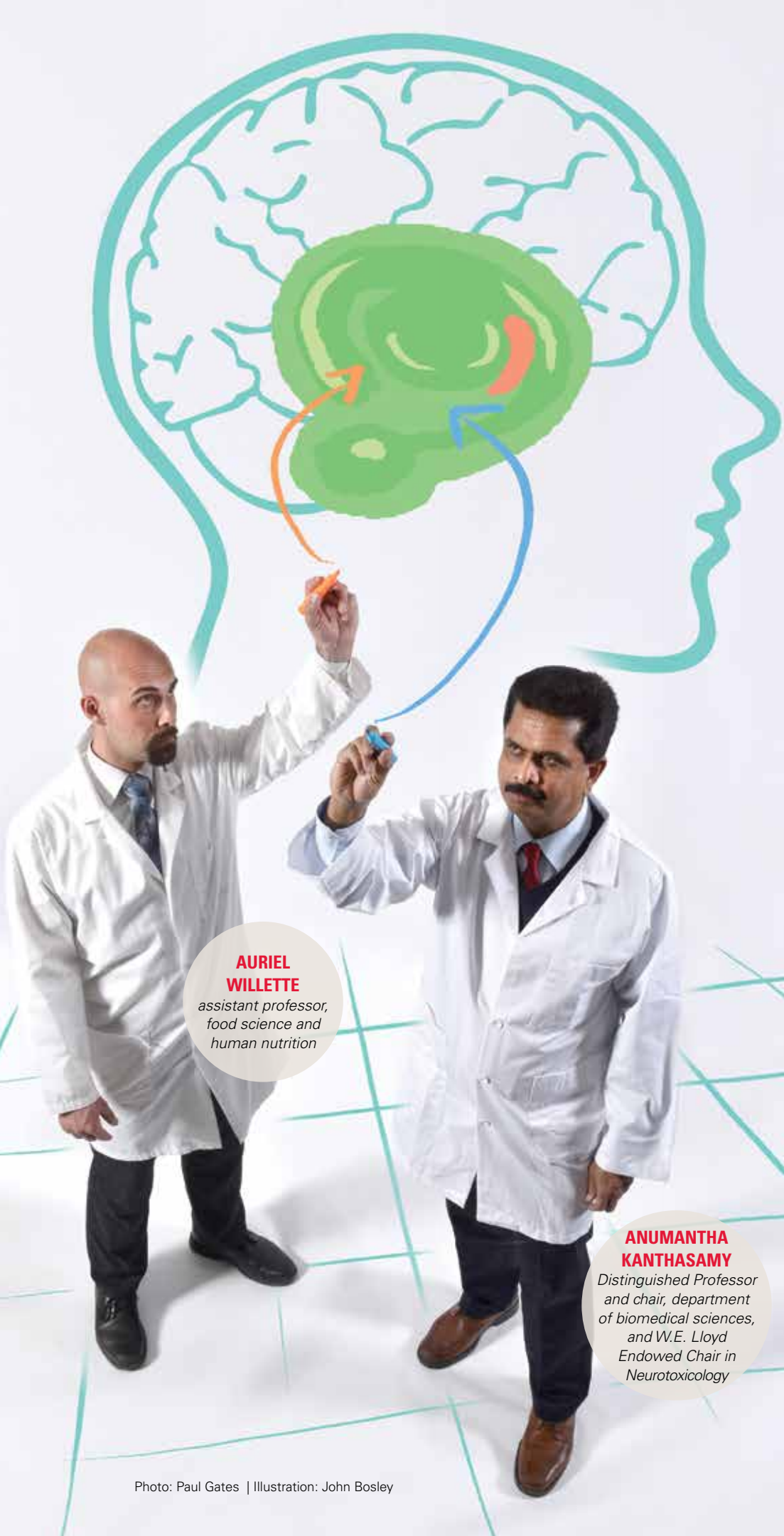
No assembly required:

By capitalizing on DNA’s unique architecture, Henderson and his colleagues build minuscule machines that self-assemble and perform a task, like attaching to a biological marker to diagnose diseases like Ebola. “The magical part is its embedded engineering code that allows you to say, if I mix these 200 pieces of DNA together in a fluid, I’m going to get a shape that looks exactly like this and has this functional capacity.” It’s like buying a vacuum cleaner that assembles itself and then finds the dirt. “You just open the package and step back.”

Coding cures: Nanoscale biomachines that go beyond diagnosis are next. “The ability to program matter – in our case, biological matter – to treat and in some cases cure genetic diseases. That’s the next big breakthrough,” Henderson says.



ERIC HENDERSON
professor of
genetics,
development and
cell biology



AURIEL WILLETTE
assistant professor,
food science and
human nutrition

ANUMANTHA KANTHASAMY
Distinguished Professor
and chair, department
of biomedical sciences,
and W.E. Lloyd
Endowed Chair in
Neurotoxicology

Gray matters: Anumantha Kanthasamy does basic research using animal models and specimens from humans to investigate neurodegenerative disease causes at the cellular level. Auriel Willette does related clinical research, seeking correlations between diseases and test results gathered in human studies. Experimental researchers then investigate those connections. Both scientists have probed possible biological markers related to Parkinson’s, a brain-damaging disease causing muscle rigidity.

Laying down a marker:

“Once you have biomarkers identified, you can detect the disease earlier,” Kanthasamy says. “We could intervene much earlier” before irreversible damage occurs.

Brain trust: Both also participate in Iowa State’s Interdisciplinary Big Data Brain Research Initiative, combining laboratory and clinical research with information technology to search for causes of debilitating brain diseases.

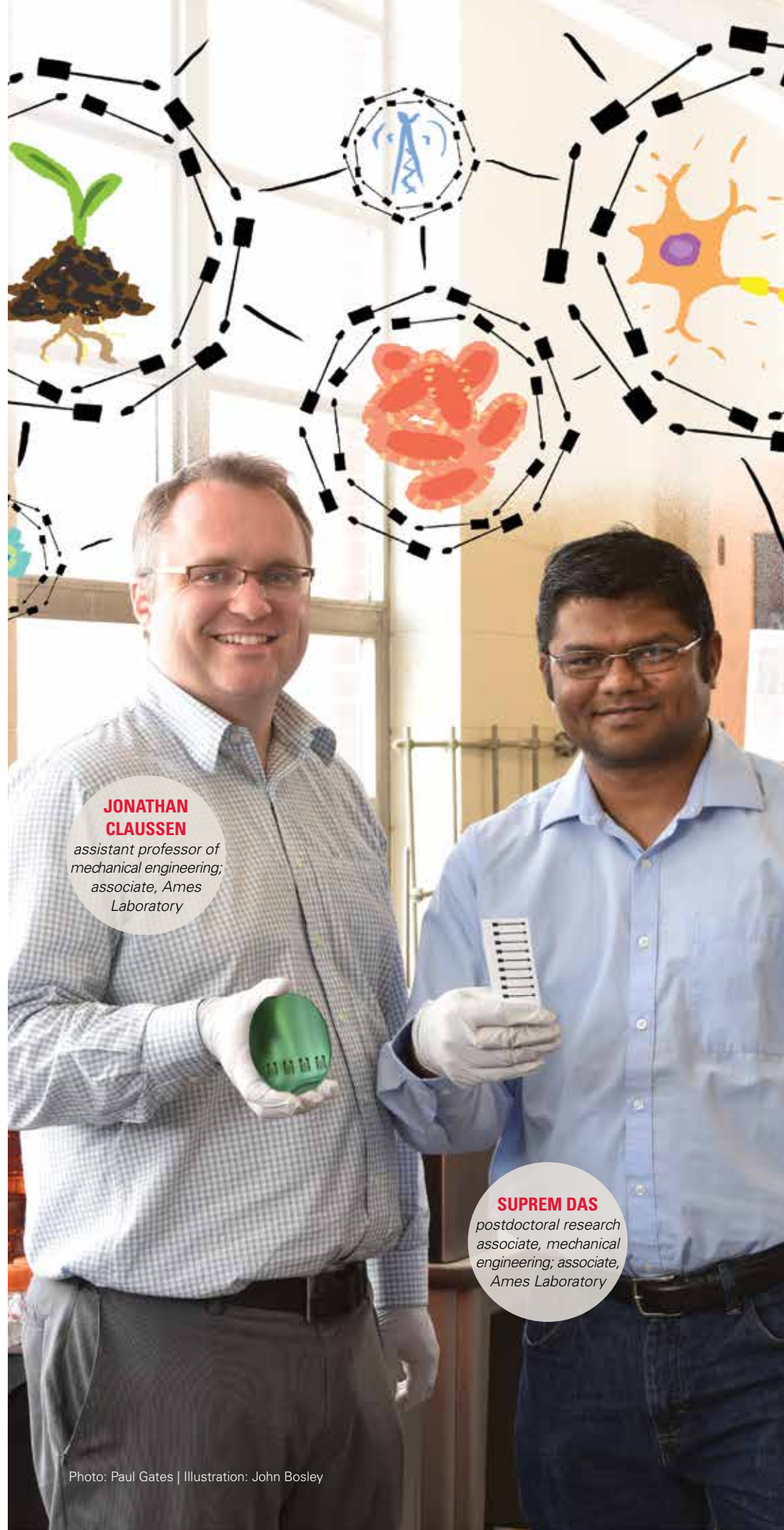
Tailor-made treatment:

Improved medical imaging, gene analysis and other technology are generating huge databases, Kanthasamy says. Analysis may find multiple sub-classes of diseases make up conditions like Parkinson’s. That opens the door to personalized medicine, Willette says, with treatments tailored to a specific cause: “One size definitely does not fit all for these kinds of chronic neurodegenerative diseases.”

Reading the (very) small print: Jonathan Claussen and Suprem Das work with graphene: carbon atoms arranged in a honeycomb-like layer that's strong and readily conducts electricity and heat. An inkjet-like process can print graphene circuits measured in millionths of a meter, promising tiny, inexpensive electronics.

Laser focused: The circuits performed weakly unless heated or chemically treated, but Das and Claussen found that treating the printed graphene with lasers improved performance, making printing on paper possible. The laser also lifts three-dimensional features from the flat graphene. "You increase the surface area tremendously," Das says, making the graphene a responsive chemical or biological sensor.

Regeneration next: Inexpensive, flexible devices could detect food-borne pathogens or oral cancer markers, or could detect real-time soil fertilizer levels, Claussen says. And Surya Mallapragada, professor and Carol Vohs Johnson Chair of Chemical and Biological Engineering, found applying a charge through the pair's printed graphene circuits triggered growth and transformed rat stem cells into a type of nerve cell, holding promise for use in nerve regeneration.



JONATHAN CLAUSSEN
assistant professor of
mechanical engineering;
associate, Ames
Laboratory

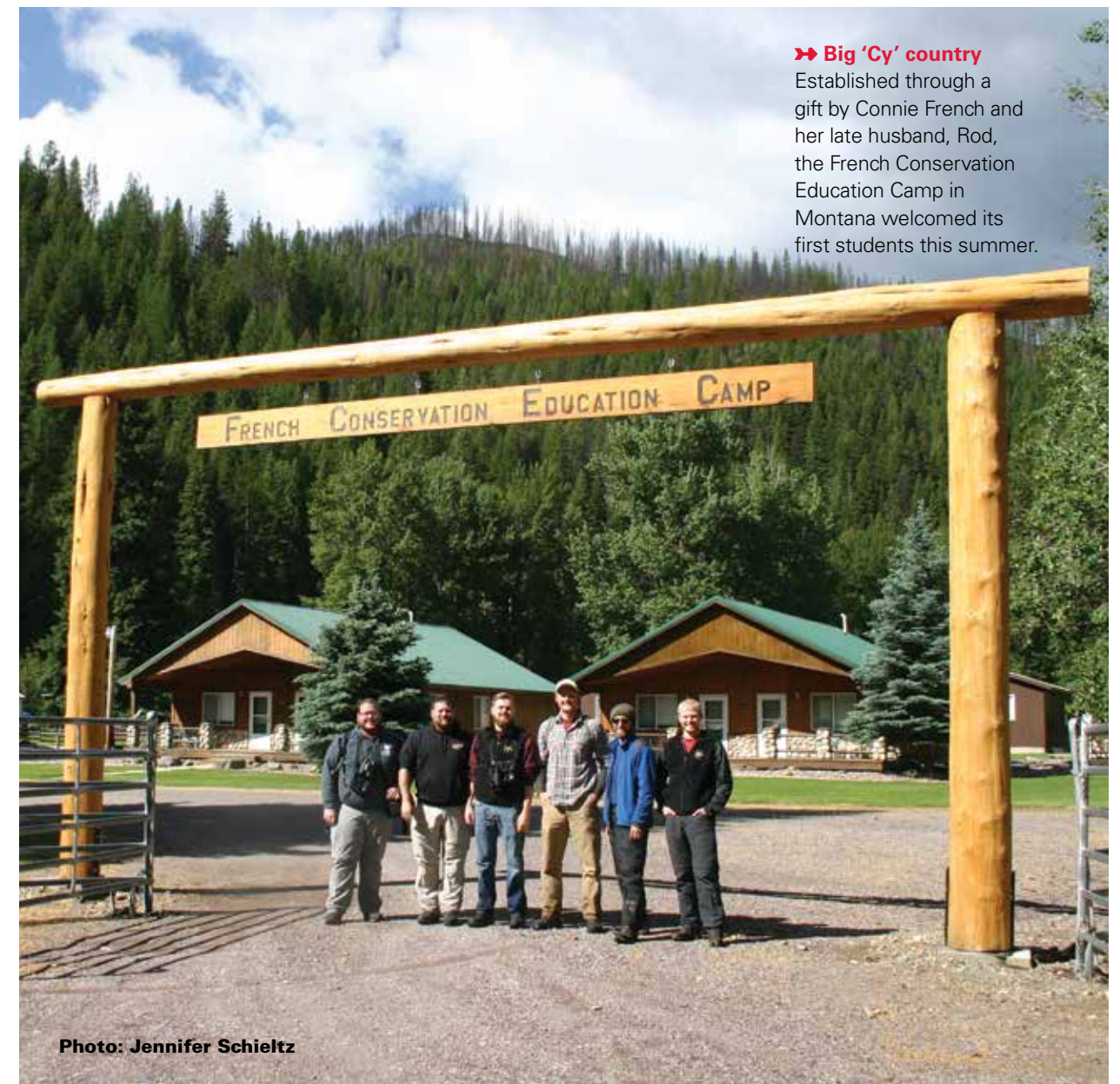
SUPREM DAS
postdoctoral research
associate, mechanical
engineering; associate,
Ames Laboratory

Photo: Paul Gates | Illustration: John Bosley

10 WITH IMPACT 14 IN BRIEF

GIFTS *at* WORK

EXTENDING IOWA STATE'S IMPACT THROUGH PHILANTHROPIC GIVING



➤ Big 'Cy' country

Established through a gift by Connie French and her late husband, Rod, the French Conservation Education Camp in Montana welcomed its first students this summer.

Photo: Jennifer Schieltz

A CODE OF THEIR OWN

Iowa State student Kelsey Hrubes has made it her mission to direct more girls into tech careers so they don't miss out, as she almost did.

By Veronica Lorson Fowler | Photo by Paul Gates



➡➡ **Code word: awesome**
Kelsey Hrubes, center, provides two attendees guidance at the Iowa Girls Code Summit in March.

MOST COLLEGE GRADUATES usually work in an industry before changing it. Iowa State student Kelsey Hrubes looked around at the dearth of women in computer science and simply couldn't wait that long.

That's why, on a Sunday afternoon in Des Moines, she's teaching a website coding workshop to about a dozen girls as part of Iowa Girls Code, the nonprofit Hrubes founded. As she walks them through the details of HTML and cascading style sheets, it could be easy for the girls to tune out. Instead, they're intent, watching Hrubes cut and paste code on her laptop, projected up on the screen behind her. Then the girls start playing around with it on their own laptops, faces illuminated by the glowing screens in the half-lit room.

Hrubes's teaching style is friendly and chatty. It's easy to see how she would be a role model for girls with an interest in science, such as Serena Brizard, a 15-year-old from Marion, Iowa, who attended the event. She says she's eager to learn from Hrubes about coding and higher-level website building. "Kelsey tends to see things the same way I do, and she's good at sharing what she's learned."

A senior in computer science, Hrubes chose the major almost on a whim, thinking she'd change it later in her college career when she figured out what she really wanted to do. Instead, she found that she was profoundly interested in – and good at – computer science. So far, she's snagged internships at Google, Workiva, Microsoft and Rockwell Collins in Germany.

While working at Google's headquarters, Hrubes noticed what news



➡➡ **Powered by giving**

Too often, students like **Kelsey Hrubes** can't pour themselves into important extracurricular or outside activities because they can't afford it. They need to hold a job, sometimes two, to make their way through college.

Hrubes says scholarship assistance, including the Carolee Raps M.D. and Lawrence J. Brecker M.D. Scholarship, and E. Floyd Bell and Viola Rheam Bell Scholarship that she received, has been key for her in reaching out to girls interested in technology.

"Running Iowa Girls Code can be like a part-time job at times, and without the assistance of scholarships through Iowa State, I wouldn't be able to dedicate as much time to the program because I'd have to work to support myself," she says.

stories have pointed out: There's a problematic lack of women in Silicon Valley and other tech innovation hubs.

Girls tend not to choose computer science careers partly because of a lack of role models, she says. "When hearing the word 'programming,' most girls think of the stereotype of the nerdy guy with few social skills, working all by himself at a computer. That's definitely not what most girls want to see themselves doing."

She realized how lucky she was, as a female, to have stumbled onto a tech career. Many young people, mainly men, come to computer science through video gaming or tinkering with computer components. Instead, Hrubes came almost cold to computer programming at Iowa State. Though she learned quickly, it put her at a distinct disadvantage.

That's why she founded Iowa Girls Code, a nonprofit that holds events across Iowa to introduce girls to coding through a day of workshops. Hrubes has also been involved on campus in the Women in Science and Engineering program, focused on engaging more women and girls in STEM disciplines.

Hrubes said early exposure is key. "Sure, some girls are totally aware that they want to work in computers and technology – usually because their parents are familiar with that world – but other girls might see it as nerdy and uncool. And when you are younger, that matters. I'm trying to show them all that they can be."

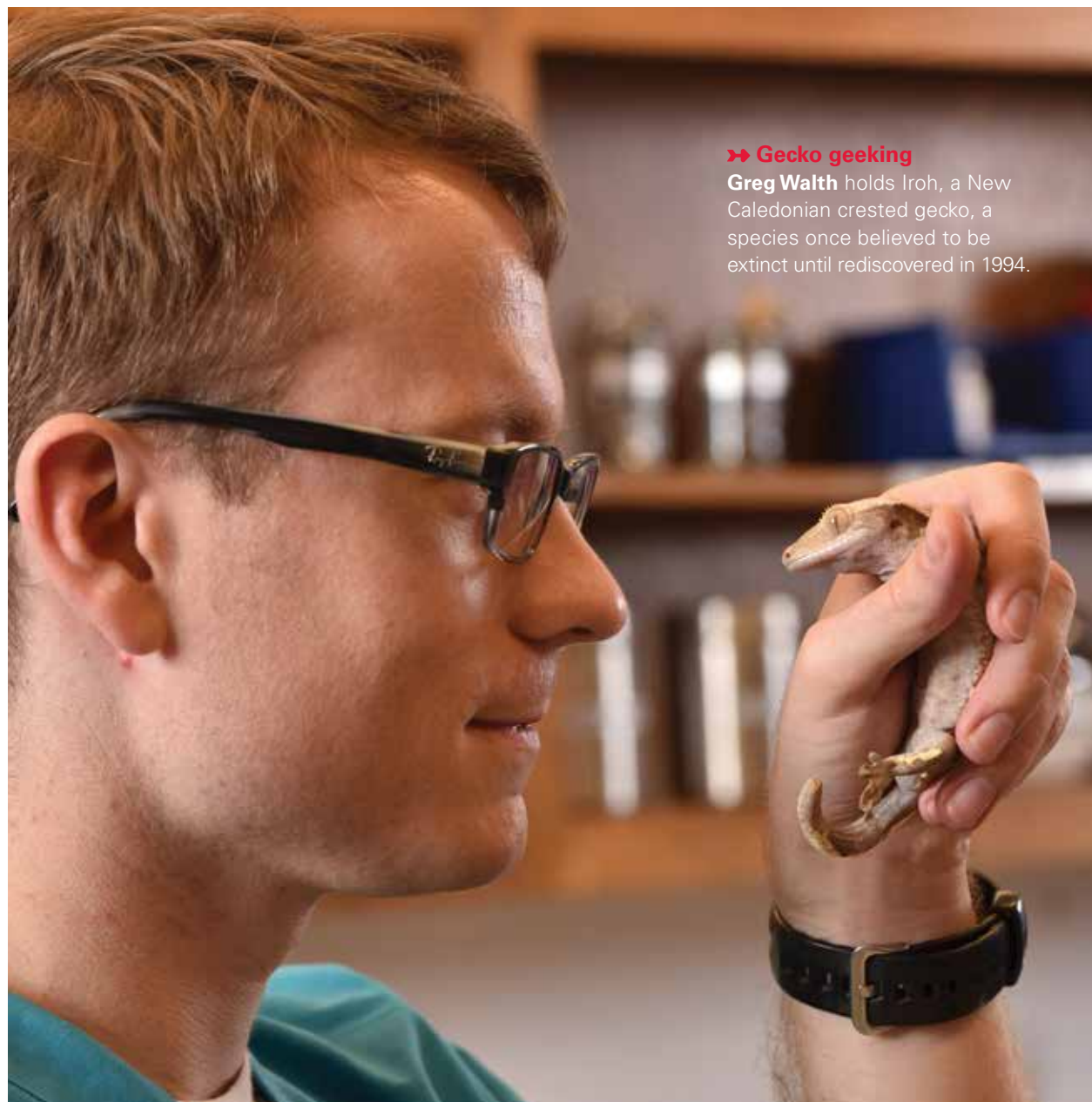
🔴 **Know a girl interested in computers and technology?**

Go to www.wise.iastate.edu to find out how to get involved.

SAVING CREATURES GREAT AND SMALL

Scholarship support fuels veterinary medicine student Greg Walth's passion for helping sick and endangered species.

By Steve Sullivan | Photo by Paul Gates



➤ Gecko geeking

Greg Walth holds Iroh, a New Caledonian crested gecko, a species once believed to be extinct until rediscovered in 1994.

GREG WALTH INITIALLY considered going into paleontology or entomology. Then, as a freshman at the University of Colorado, he did research on *Ribeiroia ondatrae*, a parasite that causes frogs to grow extra limbs.

That experience sparked in him a passion for healing animals and saving endangered species, and put Walth on a new career path.

Now a third-year veterinary medicine student at Iowa State University, Walth is studying to become a zoo and wild-life veterinarian, and Iowa State is providing him with opportunities to achieve that dream. He is a recipient of the Dr. J.W. Sexton Memorial Scholarship, which provides \$2,000 for each of the last two years of his studies, as well as a Christian Petersen Veterinary Medicine Scholarship.

"Vet school is a significant undertaking financially. Iowa State is proactive, offering a variety of scholarship opportunities," he says. "It's wonderful to be recognized, and gratifying that the university and donors are willing to support me and my work."

Last year, Walth landed a competitive internship at the Houston Zoo, which has a captive breeding colony of the highly endangered Houston toad, an amphibian indigenous to the area. Walth did a retrospective study of medical records to better understand how a bacterium was impacting the toad. The virus typically presents itself as skin lesions, but Walth found a more prevalent symptom: X-rays showed the virus was literally dissolving the toad's bones.

"It's a valuable finding, and I'm excited to bring some of this information back to Iowa State," Walth says.

He hopes to present his research at a zoological conference, and is doing a



➤ Creature comforting

Iowa State students like Greg Walth who plan to be zoo and wildlife veterinarians have a prime opportunity to work with raptors such as **Sora** and many other types of animals in the Wildlife Care Clinic in the Lloyd Veterinary Medical Center. About 75 percent of patients admitted to WCC suffer traumatic injuries related to human activity such as car collisions, hunting and trapping accidents, power line electrocution, window collisions and wire fencing. Staffed by veterinary students and volunteers, the clinic runs on donations, fundraisers and income from educational programs. All money directly benefits wildlife patients in terms of medications, diagnostics, surgery and food.

paper for journal submittal. He also shared his finding with radiologists at Iowa State's College of Veterinary Medicine and is now working on a research project with Dr. Jacob Ewing, a resident in diagnostic imaging within the department of veterinary clinical services.

It's a major step forward for Walth, who views himself as a champion for the small, underappreciated creatures that are nevertheless incredibly valuable to ecosystems.

"A lot of conservation efforts focus on charismatic megafauna like tigers and polar bears. They're important, but I like sticking up for the little guys like amphibians and reptiles that are a little less glamorous but just as important to save," he says.

Walth credits his dad, Steve, with instilling in him a passionate interest in wildlife and biology. Steve Walth often took his three sons on hikes, camping trips and visits to national parks. When Walth made his first visit to Iowa State, his devoted dad joined him. They flew from Colorado Springs to Des Moines during a blizzard.

"It was quite an adventure," Walth remembers. "Dad was already dealing with heart disease, so I was really glad to have that time together."

Steve Walth died in May 2015, several months prior to his son receiving the Sexton Scholarship.

"Receiving this scholarship was a wonderful reward in a time of hardship. I know my father would be extremely proud," Walth says.

▶ TO DONATE

to the Wildlife Care Clinic, visit vetmed.iastate.edu/vmc/clients/giving-hospital/wildlife-care-clinic.

IMPACT

Photo: Paul Gates

**aviAn TAKES FLIGHT**

The hand-written and hand-illustrated journals of Iowa ornithologists such as Philip A. Dumont and Frederic Leopold – brother to Aldo – will soon be launched into flight, so to speak, with funding from the Council on Library and Information Resources.

The 2016 Digitizing Hidden Special Collections and Archives Award, a program of CLIR, which is funded by The Andrew W. Mellon Foundation, will provide \$188,825 for the ISU Library to establish the Avian Archives of Iowa Online, a portal for digital Iowa ornithological primary sources from 1895 to 2012. When aviAn is complete, approximately 13,600 documents, more than 2,000 images, 14 field journals and seven audiovisual recordings will be freely accessible online.

"The staff at Parks Library are passionate about helping students and faculty succeed," says Kimberly Anderson, digital initiatives archivist. "We also live and breathe Iowa State's land-grant mission. This project is a blend of the two – it helps us share the library experience beyond the library walls, and it transforms the materials to enable their use by new audiences."

The mystery of Angela B. Pavitt, solved!

When the late Dale Grosvenor, an Iowa State alumnus and former faculty member, endowed a professorship through his estate, a mystery was born: Who and where was the Angela B. Pavitt for whom Grosvenor named the professorship?

A Spring 2016 *Forward* story about Grosvenor's gift struck a chord with Roberta Abraham, professor emeritus of English: In summer 1987, a teacher trainer with the Rand College of Education in Johannesburg named Angela Pavitt was among a group of South African educators who came to Iowa State for training in Teaching English as a Second Language.

As coordinator of the summer program, Abraham remembered Pavitt's visit and her curiosity about the use of computers in teaching. Grosvenor, a professor in statistics and computer science, had opportunities to interact with the South African, with whom he formed a friendship, according to Abraham.

At summer's end, Pavitt returned home, but clearly Grosvenor never forgot her. After he died in 2012, the fund established through his estate created the Angela B. Pavitt Professorship in English to support English as a second language research and teaching. Carol Chapelle, a Distinguished Professor of English and applied linguistics, was named the first Pavitt Professor in March 2015.

What still remains a mystery is whether Pavitt ever learned of her impact on Grosvenor – or his gracious act in memory of her.

**NOTABLE QUOTES**

"I would like to thank Charles and Mary Sukup – and your entire family – for your support, for having the vision of revitalizing the organ and harpsichord program here, and for supporting the Organists of Iowa. It's wonderful – thank you."

— Miriam Zach, the inaugural Charles and Mary Sukup Endowed Artist in Organ



IMPACT

**Big support for Big Data**

Nowadays, big data – using technology to analyze and utilize huge bodies of information in industry or research – is getting big buzz. A major gift from Kingland in Clear Lake, Iowa, will greatly enhance Iowa State's ability to prepare more experts for this burgeoning field.

The \$1.5 million gift launches four Kingland scholarships and eight Kingland faculty positions – nearly all focused on students and faculty in data analytics across the colleges of Business, Liberal Arts and Sciences, and Engineering. The gift also supports a STEM MBA scholarship, a professorship in entrepreneurship, and student organizations.

Kingland is a leader in financial software serving the technological needs of banks, audit firms and insurance companies with risk-management software. The company's CEO and chairman, David Kingland, and his wife, Deb, are 1980 graduates and longtime supporters of Iowa State.

THE SEARCH FOR IOWA STATE'S NEXT PRESIDENT

With the resignation of Steven Leath in March, the Board of Regents, State of Iowa has appointed the 21-person committee that will lead the search for the next president of Iowa State University. The board expects to appoint Iowa State's 16th president in early October.

The committee is co-chaired by Dan Houston, class of 1984, president and CEO of Principal Financial Group, and Luis Rico-Gutierrez, dean of the College of Design.

The Regents have appointed Benjamin J. Allen, former dean of the College of Business and provost, and retired president of the University of Northern Iowa, to serve as interim president.

Also, launching this fall are leadership searches for the next College of Veterinary Medicine dean and the extension and outreach vice president. These searches will follow the presidential search so that Iowa State's next president can be involved.

More information on the presidential search can be found at www.iowaregents.edu



NOTABLE QUOTES

"I want to emphasize that this award represents a deep faith in the work of my home department, human development and family studies. Each of us plays a role, but only a temporary role, in building the science of human development. This professorship will facilitate this work into the future that we haven't yet visualized."

— **Carla Peterson**, associate dean of the College of Human Sciences and professor in human development and family studies, and inaugural holder of the Nancy Rygg Armbrust Professorship in Early Childhood Development and Education



ACCOLADES



Photo: Jim Heemstra

Distinguishing contributions

In April, the Iowa State University Foundation and the Iowa State University Alumni Association recognized the outstanding contributions of alumni and friends of Iowa State University with its most prestigious honors during the annual Distinguished Awards Celebration.

(l. to r.) **Row 1:** Roy and Bobbi Reiman, True and Valiant Award; Russ and Lora Talbot, Honorary Alumni Award; Linda Lloyd, accepting the Distinguished Alumni Award on behalf of Dr. W. Eugene Lloyd. **Row 2:** Susan E. Carlson, Distinguished Alumni Award; Dr. William D. Hoefle, Order of the Knoll Faculty and Staff Award; Richard Stark, Order of the Knoll Campanile Award; Jørgen Clausen, chairman of the board, Danfoss, Order of the Knoll Corporation and Foundation Award; Larissa Holtmyer Jones, President and CEO, Iowa State University Foundation. **Row 3:** Steven Leath, former President, Iowa State University; Joan Stark, Order of the Knoll Campanile Award; Steven T. Schuler, Order of the Knoll Cardinal and Gold Award; Larry H. Ebberts, Distinguished Alumni Award; Jeffery Johnson, Talbot Alumni Association Endowed President and CEO.

DEDICATED SUPPORTER OF FASHION

A \$100,000 endowment established by Ana Hays McCracken, a 1984 Iowa State graduate in fashion merchandising, will provide monetary awards to each of the Fashion Show producers, who spend countless hours planning for and leading the annual, student-run event, one of the most extensive of its kind in the nation.

The Ana Hays McCracken Fashion Show Producers Scholarship endowment is the largest received to date for the Fashion Show.

Each year, four producers are chosen, and they start their work as soon as the previous Fashion Show concludes. This scholarship will assist the producers as they organize the show, which can seem like a full-time job overseeing more than 200 students who consist of committee members, directors and models.

"I met with Sarah Bennett, the Fashion Show faculty adviser," McCracken says. "She shared with me that the producer scholarship awards will help to lessen financial burdens for the producers as they launch their professional lives. And it will express to them how important their work is for the Fashion Show."

NEWS

ISU team wins Disney design competition

Three Iowa State students earned top honors at the 2017 Walt Disney Imagineering Imaginations Design Competition with their "simple but elegant design." Cristina Diaz, senior in interior design, Alexander Doppenberg, senior in mechanical engineering, and Joshua Kurnia, senior in architecture, were the first Iowa State students to reach the finals in the competition's 26-year history.

Tasked with designing an outdoor space for their university that could address the diverse needs of its students, faculty and visitors while providing them a getaway from daily stress, the Iowa State team created "Hourglass," a structure designed to look like an hourglass tipped on its side to symbolically stop time.

Diaz, a native of Aurora, Illinois, and recipient of numerous scholarships, including the Debra L. Furman Pulver and Robert G. Pulver Study Abroad Scholarship, used her interior design knowledge to contribute to the functions of "Hourglass" and how guests would interact with the space. She continues her journey with Disney this summer as an intern with Walt Disney Imagineering.

"Many things that I have accomplished while here, like helping win the Disney competition, might not have been possible without the financial assistance I was provided through scholarships," Diaz says. "It has been a lifelong dream of mine to work at Imagineering, and I hope my internship is the next step in making this dream come true!"



FOREVER TRUE AT THE FAIR

If you're attending this year's Iowa State Fair, be sure to stop by the Iowa State University exhibit in the Varied Industries Building. With the theme "Forever True, Thanks to You!", the exhibit will acquaint fair-goers with the impact of philanthropy on Iowa State students, faculty, facilities and programs through student demonstrations and a 360° video.



Maha – Bronze Maquette No. 8 (2005), Manuel Neri
Gift of the Manuel Neri Trust. In the permanent collection,
University Museums, Iowa State University

THE ART OF GIVING

Iowa State has received a gift of sculptures and drawings by American artist Manuel Neri, valued at more than \$1.2 million from the Manuel Neri Trust of Benicia, California. This recent donation, consisting of 15 sculptures and 14 drawings, supports the university's \$1.1 billion comprehensive fundraising campaign, *Forever True, For Iowa State*.

Neri is acknowledged internationally for his sculptural work in marble, plaster and bronze that depicts the human figure. Neri is currently represented in the public Art on Campus Collection with a bronze relief sculpture in Morrill Hall and a marble sculpture in the Gerdin Business Building.

"This substantial gift of art by the Manuel Neri Trust will further educational studies, engagement and exploration of Neri's role in advancing the human figurative tradition in art," says Lynette Pohlman, director and chief curator of University Museums.

An exhibition of Neri's art is planned for the Christian Petersen Art Museum beginning in January 2018.

RACHEL 'ROLES' WITH IT

Iowa State student Rachel Dankbar tackles both opportunities and challenges with equal enthusiasm and determination.

By Lindsey Davis | Photo: Paul Gates

AS A COLLEGE STUDENT, logistical specialist in the Iowa Army National Guard, single mom of an adopted child, outdoor enthusiast and travel buff, Rachel Dankbar is a woman of many roles. Guiding all of them is a personal mantra to meet each challenge presented to her. *Forward* asked Dankbar, a senior double majoring in international business and marketing from Johnston, Iowa, and recipient of the Schuler Study Abroad Business Scholarship, how she acquired such a fierce drive to thrive.

What made you interested in pursuing an international career?
Traveling and studying across the globe has opened my mind to new cultures and ways of life and has helped me rethink stereotypes. I've discovered so much, and I know an international career would encourage me to step out and redefine my comfort zone.

Tell us about adopting your son.
My son Wyatt's biological mom died giving birth to him. His dad and I had been good friends previously, and once I met Wyatt, there was an instant connection. While studying abroad in Cergy, France, Wyatt's dad presented me the opportunity to adopt his son – and I accepted! I couldn't be happier with the decision to make this little boy, who's now 3 years old, part of my



life. It's definitely not the "perfect life," but it's our life.

What do you enjoy doing in your free time, limited as that may be?

I enjoy being outdoors doing anything from hiking to climbing to paddle-boarding, which allows me to appreciate the world as it naturally is.

How would you describe your personal motto?

Every day, life presents you with a variety of opportunities. It's what action you decide to take with these that define who you are. I'm comfortable tackling challenges without batting an eye, because nothing can stand between me and my goals.

Imagine you're introducing yourself to someone for the very first time.

What's one thing you'd want them to know about you?

I am a very determined person who has yet to accept the word no, unless it is by my own standards. I see it as a challenge word that encourages me to find my way around what others say is impossible.

It's definitely not the 'perfect life,' but it's our life.

RACHEL DANKBAR

Illustration: Evanny Henningsen

WAYS TO GIVE



The Iowa State University Foundation can help you give a gift that moves lives forward.

The Baxters



I often talk about Dr. O.R. Sweeney and how he taught with passion to bring creativity and imagination to chemical engineering, and I have benefited from his influence all my life. I firmly believe that one of my responsibilities now is to 'give back' by helping others, and so my focus has been providing support for the chemical engineering department. This chair is a 'give back' for the advanced degree and the outstanding teachers in chemical engineering that Iowa State provided me in 1949.

– **REGINALD "BARNEY" BAXTER**, MSChE, class of 1949. He and his wife, **Jamie**, funded the Reginald R. Baxter Endowed Department Chair, held by Andrew Hillier. The Baxters have also supported renovations to Sweeney Hall, as well as a chemical engineering graduate fellowship in their name at Iowa State.

ISU Foundation Board of Directors 2017-18

Nancy Armbrust, chair
Green Bay, Wisconsin
Gary Streit, vice chair
Cedar Rapids, Iowa
Mary Jane Hagenson, treasurer
San Antonio, Texas
Jim Frein, secretary
Vail, Colorado
Benjamin J. Allen
Ames, Iowa
Gregg Behrens
Mt. Pleasant, South Carolina
Lloyd Bettis
Naples, Florida
Craig Denny
Lenexa, Kansas
Jon Fleming
Ames, Iowa
Ron Hallenbeck
Ames, Iowa
Kathy Howell
Erie, Colorado
Barbara Janson
Dedham, Massachusetts
Ric Jurgens
West Des Moines, Iowa
Richard Mahoney
Bainbridge Island, Washington
Roger Underwood
Ames, Iowa

ISU Foundation Executive Team

Larissa Holtmyer Jones
President and CEO
Lisa Eslinger
Chief Financial and Administrative Officer
Steve Biever
Vice President of Development
Jeremy Galvin
Vice President of Development

The Iowa State University Foundation does not discriminate on the basis of race, color, age, religion, national origin, actual or perceived sexual orientation, gender identity, sex, marital status, disability, or status as a U.S. veteran. Any persons having inquiries concerning this may contact human resources, Iowa State Foundation, 515.294.4607.



Iowa State University Foundation

2505 University Blvd.
P.O. Box 2230
Ames, Iowa 50010-2230



Photo: Chris Gannon

Forever True, through and through!

Iowa State celebrated the first Forever True Week in April, during which the sights and signs of philanthropy's impact on campus were everywhere. Students, faculty, staff and visitors alike got to learn more about what private giving has meant to Iowa State's success and take home nifty *Forever True, For Iowa State* swag. Go to isuf.info/forevertrueweek to see how Cy got into the act!

Forward

Editor: Jodi O'Donnell

Writers: Lindsey Davis,
Veronica Lorson Fowler,
Betsy Hickok, Thomas R. O'Donnell,
Steve Sullivan

Designer: Ryan Peterson

Director of Marketing Services:
Valerie Jansen

Cover Image: Simmie Knox

Find us

PHONE: 515.294.4607

TOLL-FREE: 866.419.6768

www.foundation.iastate.edu

E-MAIL: forwardmag@foundation.iastate.edu



IOWA STATE UNIVERSITY
FOUNDATION